ANDREW S. DELMAN

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EDUCATION

Ph.D., Oceanography, Scripps Institution of Oceanography, University of California-San Diego, June 2016.
Dissertation: Interactions of mesoscale ocean dynamics with large-scale ocean and climate variability: case studies in the mid-latitude Pacific and tropical Indian oceans
Advisors: Julie McClean, Janet Sprintall, and Lynne Talley

Master of Science, Oceanography**,** Scripps Institution of Oceanography, University of California-San Diego, December 2010.

Bachelor of Science, Geology & Geophysics, *magna cum laude*, Yale University, May 2009.

RESEARCH INTERESTS

- Oceanic mesoscale phenomena, including planetary waves and nonlinear eddies
- Quantifying the specific contributions of mesoscale phenomena from budgets (of heat, salt, vorticity) in GCMs and data assimilation products
- Intraseasonal, interannual, and decadal climate variability
- Satellite oceanography and meteorology

RESEARCH EXPERIENCE

Jul. 2016-present — NASA Postdoctoral Program (NPP) fellow, Jet Propulsion Laboratory
Tong Lee, advisor

- Using remote sensing observations and ocean GCM output to study mesoscale eddy variability in the subtropical southern Indian Ocean, their energetics, and their impacts on the regional ocean state and heat transport

Jul. 2010-Jun. 2016 — Graduate Student Researcher, Scripps Institution of Oceanography
Janet Sprintall, Julie McClean, and Lynne Talley, co-advisors

- Constructing budgets from high-resolution ocean GCM output to quantify the specific contribution of wind stress, coastal Kelvin waves, and mesoscale eddies to mixed layer temperature changes near Java during the development of positive Indian Ocean Dipole events
- Analyzed satellite data to determine the influence of Kelvin waves and other mesoscale phenomena on the interannual variability of SST near Java

- Computed and analyzed the time-mean vorticity budget in the Kuroshio Extension, using GCM output and a stream coordinate-following reference frame to characterize eddy-mean flow interactions

Sept.-Oct. 2011
Aug.-Sept. 2012

Student research visitor, National Center for Atmospheric Research
Frank Bryan, advisor

- Participated in the SUNNY (Scripps/UCSD/NCAR New and Young) program for graduate students to have short-term residences at NCAR
- Used output from multiple runs of the CCSM/CESM suite of coupled models to construct heat budgets for the upper ocean in the Indian Ocean near Indonesia

Jun.-Aug. 2009

Research assistant, Scripps Institution of Oceanography
Dean Roemmich, advisor

- Studied mass and heat budgets in the equatorial Pacific Ocean using Argo float data, with particular focus on inflows from the western boundary current in the Solomon Sea

Jun. 2008-Apr. 2009

Woods Hole Oceanographic Institution (WHOI) and Yale University
Andrew Ashton, advisor (and later Jay Ague, Yale U.)

- Senior thesis: developed numerical model simulations of barrier island erosion and overwash due to gradual sea level rise, including a case study on Martha's Vineyard, Massachusetts

FELLOWSHIPS/AWARDS

2016 — NASA Postdoctoral Program (NPP) fellowship – support for 1-3 years of postdoctoral research at the Jet Propulsion Laboratory

2013 — NASA Earth and Space Science Fellowship (NESSF), funding for up to 3 years of graduate study

2013, 2015 — Scripps Institution of Oceanography, departmental travel awards

2011 — NSF Graduate Research Fellowship, honorable mention

2009 — University of California Regents fellowship, for graduate studies at SIO

2008 — Woods Hole Oceanographic Institution Summer Student Fellowship

PUBLICATIONS

Delman, A. S., 2016: Interactions of mesoscale ocean dynamics with large-scale ocean and climate variability: case studies in the mid-latitude Pacific and tropical Indian oceans. Ph.D. thesis, University of California-San Diego.

Delman, A. S., J. Sprintall, J. L. McClean, and L. D. Talley: A harmonic projection and least-squares method for quantifying Kelvin wave activity. *Ocean Sci.,* in review, doi:10.5194/os-2016-1. Preliminary (discussion) version available at: http://www.ocean-sci-discuss.net/os-2016-1/

Delman, A. S., J. Sprintall, J. L. McClean, and L. D. Talley: Anomalous Java cooling at the initiation of positive Indian Ocean Dipole events. *J. Geophys. Res. Oceans,* in review pending minor revisions.

Delman, A. S., J. L. McClean, J. Sprintall, L. D. Talley, E. Yulaeva, and S. R. Jayne, 2015: Effects of eddy vorticity forcing on the mean state of the Kuroshio Extension. *J. Phys. Oceanogr.,* **45,** 1356-1375, doi: 10.1175/JPO-D-13-0259.1.

CONFERENCE PRESENTATIONS AND WORKSHOPS

Feb. 2016	Ocean Sciences Meeting, New Orleans, LA. Poster presentation: "The contributions of Kelvin waves and subsurface stratification to SST cooling near Java and Sumatra, during positive Indian Ocean Dipole events".
Feb. 2014	Ocean Sciences Meeting, Honolulu, HI. Oral presentation: "Eddy-mean flow interaction in the Kuroshio Extension"
Jun. 2013	Community Earth System Model (CESM) working group meeting, Breckenridge, CO. Oral presentation: "Eddy momentum and vorticity forcing in the Kuroshio Extension, from an eddying POP simulation".
Sept. 2012	International Meeting of Students in Physical Oceanography (IMSPO), La Jolla, CA. Oral presentation: "Java and Sumatra upwelling: its variability and relationship to the Indian Ocean Dipole mode".
Jul.-Aug. 2012	Community Earth System Model (CESM) tutorial participant, Boulder, CO.
Jun.-Jul. 2011	International Union of Geodesy and Geophysics (IUGG), Melbourne, Australia. Poster presentation: "Indonesian Throughflow eddies and wind forcing interactions with Java upwelling".
Sept. 2010	International Meeting of Students in Physical Oceanography (IMSPO), Seattle, WA. Oral presentation: " 'Teddies' in the southeastern tropical Indian Ocean".

SEA-GOING EXPERIENCE

Nov.-Dec. 2014 — ChinStrAP cruise: Southern Ocean, 25 days, R/V Laurence M. Gould. Chief Scientist: Andrew Thompson (Caltech)

- Aided in the deployment and piloting of two gliders at the southern edge of Drake Passage, CTD casts, XBT/XCTD casts, salinometer measurements
- Responsible for preliminary analysis of XBT/XCTD cast data collected on the AX-22 repeating transect, and of salinometer measurements during CTD casts

TEACHING AND MENTORING

2016 — Guest lecture on "Ocean Circulation: Upwelling and Downwelling" for MARS 220 (Introduction to Atmospheric and Ocean Sciences), at the University of San Diego

2015 — Participant in "The College Classroom", University of California, San Diego

- Completed a course that prepares future university-level instructors to implement evidence-based teaching methods and active learning in the classroom

2014 — Mentor for first-year graduate student at SIO

2012 — Teaching Assistant for SIO 20 (The Atmosphere), introductory undergraduate atmospheric science course at UCSD

- Led review sessions, graded assignments and exam, held office hours, responded to student questions (in person and by e-mail)

2011, 2014-present — Team for Inclusion and Diversity in Engineering and Science (TIDES), SIO (formerly named GDAWG)

- Tutoring children ages 5-10, primarily from non-English speaking families, in reading/writing English, Spanish, and in mathematics

2006-2009 — Science and Math Achiever Teams (SMArT), Yale University

- Worked with students from inner-city middle schools on science fair-style projects
- Day Coordinator for other mentors in Spring 2007

2005-2007 — Instrumental Connections (IC), Yale University

- Taught beginner clarinet lessons to children ages 9-10

ACADEMIC SERVICE

2014-2016 Computing Committee student representative, Scripps Institution of Oceanography

2011-2012 Physical Oceanography student representative, Scripps Institution of Oceanography

- Organized and coordinated events for prospective graduate students visiting campus, during the Open House and at other times; matched prospective students with hosts

Reviewer for *Deep-Sea Research Part I, Geoscientific Model Development*

PROFESSIONAL AFFILIATIONS

- American Geophysical Union
- The Oceanography Society

COMPUTING SKILLS

- High proficiency in MATLAB, LaTeX, bash, C-shell, Vi/Vim, Microsoft Word/PowerPoint/Excel
- Some proficiency in Fortran, C++, NCL, HTML

OTHER SKILLS

Languages

- Moderate fluency in Spanish

Music

- Clarinet player for 15 years; choir member for 7 years